

CITY OF **SANTA ANA** **GENERAL PLAN**

- Public Facilities Element
- Public Safety Element
- Conservation Element
- Open Space, Parks, and Recreation Element
- Scenic Corridors Element
 - Energy Element
 - Noise Element
 - Seismic Element

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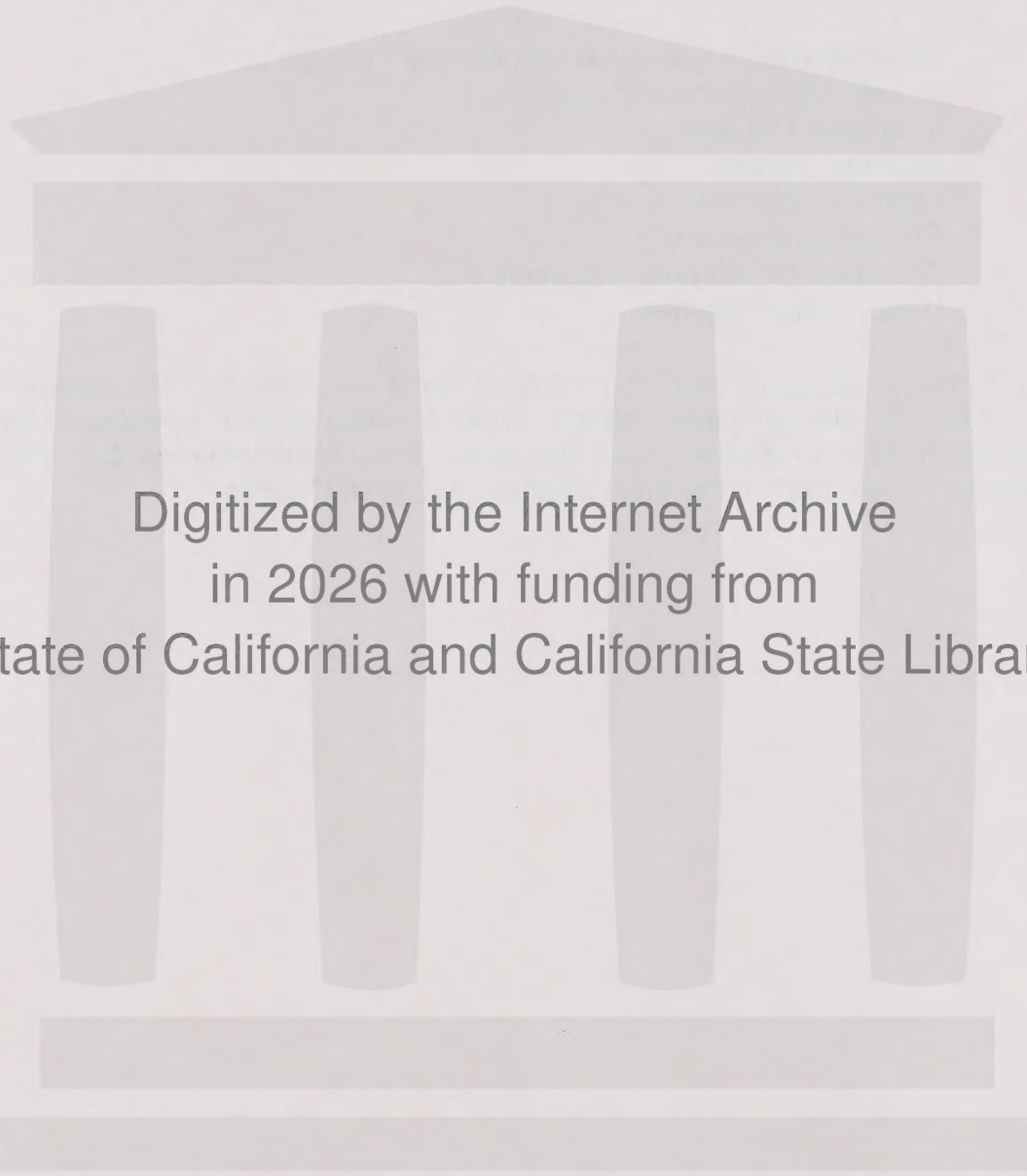
PER RESOLUTION 82-122

NOTICE TO THE PUBLIC

Please be aware that the City of Santa Ana General Plan includes a number of elements which are bound separately from this document. These elements are:

- Airport Environs Land Use Compliance Element
- Growth Management Element
- Education Element
- Housing Element
- Land Use Element
- Circulation Element
- Economic Development Element
- Urban Design Element

Should you need a complete copy of the City of Santa Ana General Plan, please make sure you obtain the elements listed above. There are also periodic changes to the Land Use Map which are not reflected in this document. For information regarding these amendments, please call the Planning Counter at (714) 647-5804.



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RESOLUTION NO. 82-122

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA ANA CERTIFYING THE COMPLETION OF A FINAL ENVIRONMENTAL IMPACT REPORT FOR THE REVISION OF THE GENERAL PLAN OF THE CITY OF SANTA ANA AND ADOPTING THE SAID REVISED GENERAL PLAN

WHEREAS, a proposed revision of the General Plan of the City of Santa Ana (hereinafter referred to as the "Revised General Plan") has been approved by the Planning Commission after public hearing in the manner required by law, and is now on file in the office of the Clerk of the Council; and

WHEREAS, the Revised General Plan includes a draft environmental impact report which has been duly noticed for public review and comment; and

WHEREAS, this Council has held a public hearing on the Revised General Plan, including the said draft environmental impact report, after notice in the manner required by law;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SANTA ANA AS FOLLOWS:

1. The City Council has evaluated all comments and recommendations written and oral, received from persons who have reviewed the draft environmental impact report, and all responses thereto, including those made at the public hearing. The Clerk of the Council is hereby directed to attach all such written comments and responses and the minutes of the said public hearing to the draft environmental impact report, together with a list of persons, organizations and public agencies commenting on the draft environmental impact report. The said comments, responses, and list are hereby incorporated herein as part of the record and, together with the draft environmental impact report, are declared to constitute the final environmental impact report for the Revised General Plan.

2. The City Council hereby certifies that the final environmental impact report for the Revised General Plan has been completed in accordance with the California Environmental Quality Act, the State CEQA Guidelines and local procedures, and that the City Council has reviewed and considered the information contained in the final environmental impact report.

3. The City Council hereby finds, on the basis of the final environmental impact report and other substantial evidence in the record, that changes or alterations have been incorporated into the Revised General Plan which mitigate or avoid the following significant environmental effects identified in the final environmental impact report: (1) additional traffic (2) reduced air quality (3) increases in noise levels, and (4) increases in energy consumption, and that such significant environmental effects have thereby been substantially lessened. This finding is supported by the following statement of facts:

(a) Although identified as significant effects of the project in the environmental impact report, such effects are not in fact caused by the adoption of the Revised General Plan, but rather by the expected growth and development of the City of Santa Ana and the surrounding region. Such effects would occur to an equal or greater extent under the previously adopted general plan or in the absence of any general plan.

(b) The Revised General Plan contains "Circulation," "Conservation," "Energy" and "Noise" elements of which the policies and programs are specifically designed to mitigate the said identified significant effects in a rational, coordinated manner so as to achieve minimal adverse effects consistent with reasonable growth and development.

4. The City Council hereby finds, on the basis of the final environmental impact report and other substantial evidence in the record, that specific economic, social and other considerations make infeasible the alternatives to the Revised General Plan identified in the final environmental impact report. This finding is supported by the following statement of facts:

(a) The Revised General Plan represents the best balance of competing goals and objectives: preservation of residential community integrity; maintenance of affordable housing; encouragement of economic development; avoidance of unacceptable levels of congestion and disruption.

(b) Greater restriction of residential development would discourage the new development of housing available to persons of low or moderate income. Increasing

population, with its consequent increased demand for housing, would result in increasing the cost of the existing housing supply. Less restriction of residential development would result in the disruption of established residential communities.

(c) Greater restriction of commercial-industrial development would reduce employment opportunities in the City of Santa Ana; would deny to City government a tax revenue base sufficient to meet the demand for governmental services; and would lead to stagnation and blight conditions in established commercial areas. Less restriction of commercial-industrial development would allow the intermixture of incompatible land uses and development which is beyond the capacity of streets and other public improvements to serve.

5. The City Council hereby finds, on the basis of the final environmental impact report and other substantial evidence in the record, that the changes in planned land use for areas of the City of Santa Ana accomplished by the adoption of the Revised General Plan are acceptable. Such changes are necessary for the general welfare of the people of the City of Santa Ana over the long-term, in order to achieve a balance between competing needs, as referenced in Section 4 herein, and in order to channel new development into areas in which it will be both financially feasible and compatible with existing uses.

6. The City Council hereby approves and adopts the Revised General Plan. Said Revised General Plan, together with the Revised Housing Element of the General Plan, adopted by the City Council by its Resolution No. 82-7 on January 18, 1982, shall constitute the General Plan of the City of Santa Ana required by Section 65300 of the Government Code of the State of California and the master plan required by Chapter 27 of the Santa Ana Municipal Code. All elements of the general or master plan or amendments thereto previously adopted or approved by the City Council, excepting only the aforesaid Revised Housing Element of the General Plan, are hereby repealed.

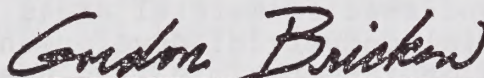
7. The Clerk of the Council is hereby directed to endorse the Revised General Plan to show that it has been adopted by the City Council and to retain the same on file in her office.

8. The Director of Planning and Development Services is hereby directed to:

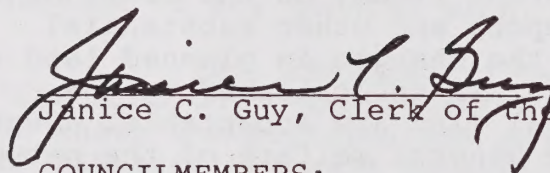
(a) Send a copy of the Revised General Plan to the Planning Agency of Orange County.

(b) File a Notice of Determination with the County Clerk of Orange County pursuant to Section 21152 of the Public Resources Code and the State CEQA Guidelines.

ADOPTED this 20th day of September, 1982.


Gordon Bricken, Mayor

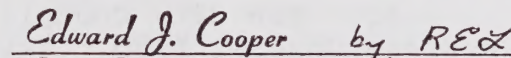
ATTEST:


Janice C. Guy, Clerk of the Council

COUNCILMEMBERS:

Bricken	<u>Aye</u>
Luxembourger	<u>Aye</u>
Acosta	<u>Aye</u>
Serrato	<u>Aye</u>
Griset	<u>Aye</u>
Markel	<u>Nay</u>
McGuigan	<u>Aye</u>

Approved as to Form:

 by REX
Edward J. Cooper, City Attorney

ACKNOWLEDGMENTS

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INTRODUCTION

1. FRAMEWORK PLAN

2. POLICY PLAN

Summary

The new City of Santa Ana General Plan was developed through an extensive process of public participation involving citizens, elected and appointed City officials and City Staff.

The General Plan has been developed to conform to state law and to meet local planning needs through the year 2000. Periodic updates of the new General Plan are anticipated.

The General Plan builds upon Santa Ana's historical assets including the City's heritage as the governmental and financial center of Orange County and the buildings, districts and streetscapes which reflect this heritage.

The General Plan anticipates two major potentials that can shape Santa Ana over the next several decades. The plan anticipates and maximizes the probability of the Countywide rapid transit system to be located in Santa Ana and encourages mixed use development and preservation in corridors and centers relating to this new access and visibility.

The General Plan has three major sections: the Framework Plan, Policy Plan, and Environmental Impact Report.

1. **The Framework Plan** describes Santa Ana's overall planning strategy and program. This strategy reorganizes the City's land use and urban design structure to take maximum advantage of

- the economic development advantages offered by Santa Ana's historic regional location and functions
- an improved multi-modal transportation system including
 - Countywide rapid transit access to Santa Ana
 - improved local transit
 - improved auto access to major activity centers
 - a new Amtrak station
 - a downtown multi-modal transportation and bus center
 - a downtown shuttle system
 - new pedestrian connections within and between land use districts and to public transportation facilities.

The Framework Plan provides an overview of the City's implementation program which includes

- continuing involvement of the community in developing the detailed implementation plans that will be developed for subareas of the Framework Plan
- efficient processing of development and rehabilitation proposals by means of a Development Review Team
- a carefully coordinated development program to foster and assist private investment through
 - land assembly
 - coordinated provision of public improvements
 - Specific Plans
 - citizen participation coordination
 - low interest loans and grants
 - project promotion.

2. The Policy Plan spells out the

- goals and objectives which underlie the Framework Plan
 - greater detail regarding implementation policies and programs supporting the Framework Plan.
- Together, the Framework Plan and Policy Plan envision a new image for Santa Ana consisting of
- increased economic activity to provide jobs and maintain a solid financial base for city services
 - improvement of Santa Ana's housing stock for a full range of income groups and lifestyles
 - the finest multi-modal transportation system in Orange County
 - a new physical environment consisting of
 - preserved and enhanced viable Neighborhoods
 - District Centers combining new shopping facilities with recreational, cultural, education, employment and special housing types
 - improvement of Santa Ana's major Industrial Districts
 - Mixed Use Corridors with a range of uses similar to the District Centers but with more facilities related to regional transit and auto access.

3. The Environmental Impact Report contains

- an analysis of the impacts of implementation of the General Plan
- an evaluation of alternative strategies and
- mitigation means to insure compatibility of the proposed plans and policies.

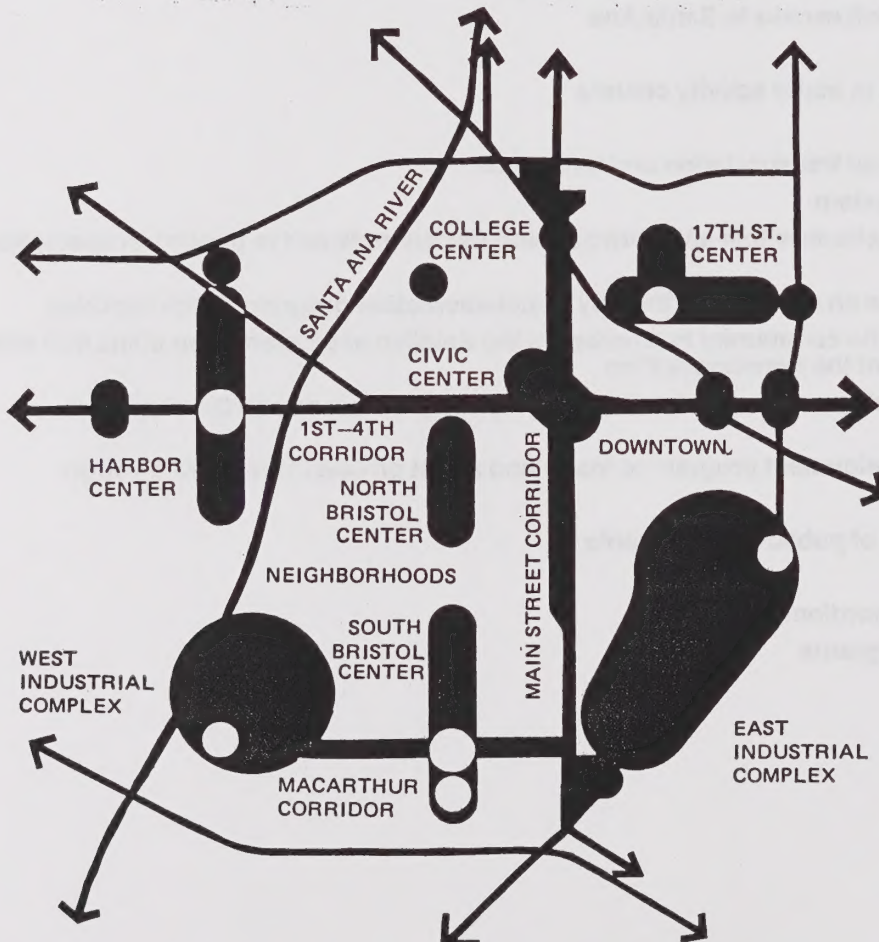


Figure i Framework Concept

Planning Context

HISTORICAL

Santa Ana's rich history provides a legacy for community planning and revitalization in the 1980's. Santa Ana was founded in 1869 by William Spurgeon. The original town, layed out by Mr. Spurgeon, consisted of 24 blocks. The town served as a shopping center and post office for surrounding agricultural areas.

In 1878 the Southern Pacific Railroad arrived and the Santa Fe Railroad followed in 1886. This encouraged development of the City. In 1889 the County seat was located in Santa Ana and this further stimulated the development of businesses, stores, financial institutions and hotels serving the metropolitan population. Citrus and walnut farms were still plentiful and buying and selling land became the number one enterprise. The First to 17th Street area was subdivided during the building boom of the 1880's. Many of the structures in downtown and the surrounding bungalow homes were built in the early 1900's and 1920's.

The City is retaining and building upon its important governmental, retailing and employment roles in the County and the rich architectural and streetscapes heritage associated with the City's history.

REGIONAL

Santa Ana is geographically central to the developable land within Orange County. The City has excellent relationships to freeways, rail services via Amtrak and air transportation at the John Wayne Airport. Because of Santa Ana's geographic centrality and functional importance to the County, the Orange County Transit District is planning major fixed rail transit corridors in the Main Street and Pacific Electric right-of-ways. These regional transportation improvements, combined with improvements to freeway access points and local streets, provide Santa Ana with abundant development opportunities for the 1980's.



Figure ii Regional Context

Planning Process

The Planning Process used in creating the Santa Ana General Plan is summarized in Figure iii and related photographs. The process involved:

- a 150-person Citizen Advisory Committee (CAC) to which all citizens applying were appointed by the City Council
- the Planning Commissioners who served as chairpersons of five CAC subcommittees: Land Use and Urban Design, Circulation, Housing, Economic Development and Environmental Factors
- the City Council who participated in goal setting and policy making workshops
- the public-at-large who participated in a series of Town Forums and Public Hearings
- City Staff who worked with The Arroyo Group (TAG) in conducting the planning process and who evaluated the program as it evolved.

The six key steps in the planning process were:

1. Data Collection and Analysis

The data base for the previous General Plan was outdated and up-to-date census data was not available. Emphasis was placed on community definition of problems and opportunities through CAC and Staff Steering Committee workshops and mapping. TAG subcontractors also gathered key data in areas such as market demand, traffic, seismic, etc. This data was summarized and analyzed in a separate Problems and Opportunities Report.

2. Formulation of Goals and Objectives

Initial goals and objectives were developed through workshops, with the CAC and City staff. Several cycles of refinement were done by TAG based on input from the Planning Commission, City Council, CAC and staff.

3. Formulation of Subarea Alternatives

Santa Ana has a large number of fixed elements such as streets and land uses. Therefore, subarea plans were developed to provide alternative land use patterns in different parts of the City. Each subarea plan was related to an urban design framework previously approved by the CAC, Planning Commission and City staff.

4. Formulation of Areawide General Plan Alternatives

Areawide General Plan alternatives focused on different combinations of subarea plans.

5. Plan Selection

Plan selection was done through a series of meetings with the CAC, Planning Commission and City staff.

6. Plan Refinement

Plan refinement was accomplished by staff review of a Preliminary Draft, and CAC, Planning Commission and Public-at-Large comments on a Public Hearing Draft.

Figure iv illustrates some of the materials utilized during the planning process.

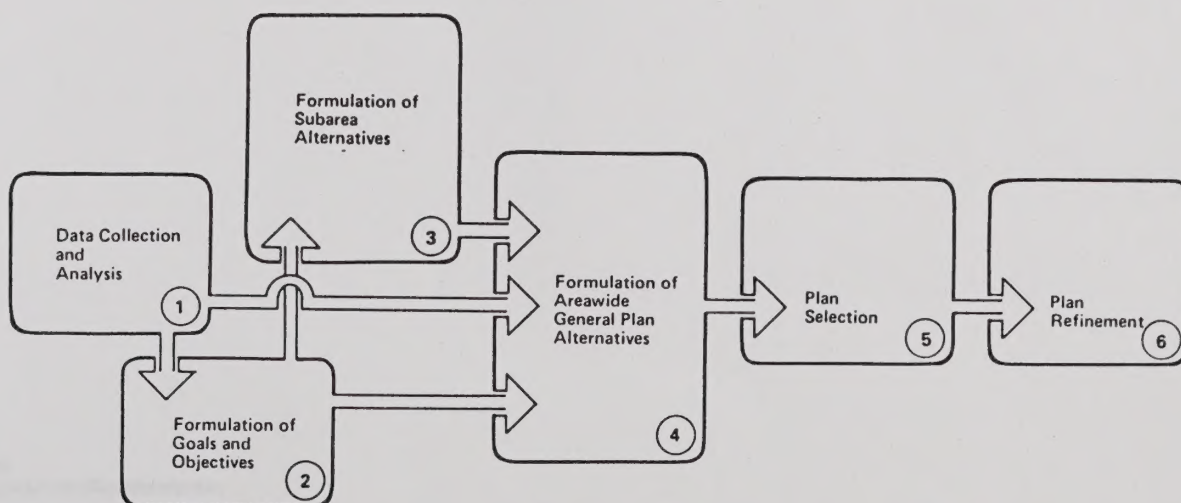


Figure iii Planning Process

Policy Plan Introduction

The Policy Plan is part of the General Plan which is the detailed policies of the City relating to the Countywide Plan described in Section 1.

Each element of the Policy Plan contains goals, objectives, implementation policies and implementation programs.

Each element also contains Planning Policies which which reflects the goals being identified through the element implementation process.

The Policy Plan provides a framework for the development, description and implementation of the General Plan and provides an overview of the General Plan implementation.

POLICY PLAN

Public Facilities

Conservation

Open Space, Parks and Recreation

Scenic Corridors

Noise

Seismic

Policy Plan Introduction

The Policy Plan section of the General Plan sets forth the detailed policies of the City relative to the Framework Plan described in Section 1.

Each element of the Policy Plan contains goals, objectives, implementation policies and implementation programs.

Each element also contains a Planning Factors section which reflects the major issues identified through the citizen participation process.

The Plan Components section of each element describes the planning and design concepts illustrated in the maps and provides an overview of implementation considerations.

Public Facilities

The basic needs of society for health, education, welfare, safety, and recreation are met by a city's public facilities, utilities and services. The types of facilities and services, and the physical and structural relationships between them, expresses the City's institutionalized response to the desires and needs of the citizenry. Accordingly, facility, utility, and service policies as addressed in this element are points of departure for an on-going process of facility provision and service delivery.

The Public Facilities Plan addresses the following facilities and services: education, library, medical, cultural, government and public utilities. The Public Safety Element deals with police and fire facilities and services, and the Open Space, Parks and Recreation Element discusses park and recreation facilities.

Planning Factors

As a developed City, Santa Ana has already put in place most of its major public facilities. The majority of the public investment needed to create a facilities system appropriate to the community's needs has already been made.

Santa Ana's population is expected to gradually increase over the next twenty years by about 45,000. As population growth occurs, some additional facilities such as schools and libraries may be required. These requirements will depend in part upon household formation and birth rate trends and the City's land development patterns.

Limited public financial resources constitute the largest single constraint upon the City's public facilities. Shrinking tax dollars strain the City's ability to accommodate desirable growth and expansion in its facilities and services. These limitations give rise to the need for increased private sector support for community facilities and the creation of a public-private partnership to aid in the expansion and maintenance of adequate levels of services.

Education. The City of Santa Ana is included within the jurisdiction of four school districts: Santa Ana Unified, Garden Grove Unified, Tustin Unified and Orange Unified. The facilities of Santa Ana Unified School District account for over 90 percent of school resources available in the City. These facilities are over enrolled with respect to current available space. Elementary enrollment (K-5) is over-enrolled by approximately 2,500 students. Elementary schools now utilize 60 temporary buildings, representing 15 percent of all elementary facilities. Intermediate and high school facilities are adequate, although one intermediate school now operates on a year-round basis. High school facilities are expected to be adequate without major expansion or year-round operation only until 1986.

The lack of funds and available space for new facilities will cause increasingly critical problems for the school district. More year-round operation of facilities and the securing of funds from the State for building programs will aid in resolution of this problem.

Although the City of Santa Ana has no jurisdictional control over funding for school facilities, the over-enrollment and other deficiencies in City school facilities are City problems, and negatively impact the community as a whole. Accordingly, the City should enact an ordinance under the authority of S.B. 201 requiring a school impact mitigation fee from new residential development.

Library. The City library system consists of a central library in Civic Center Plaza and two branch libraries in the western portion of Santa Ana: the McFadden and Newhope Branches. The library has a combined annual circulation of approximately 900,000 volumes. The Central library is approximately 40,000 square feet in size, and the branches are approximately 8,500 square feet each.

Hospitals and Community Health Facilities. The City is served by a total of seven hospitals; four are in Santa Ana and three are in Orange. These hospitals, Santa Ana-Tustin Community, Doctor's, Mercy General, Riverview, St. Joseph's, Childrens Hospital of Orange County, and University of California at Irvine Medical Center, provide a combined total of over 1,500 beds and all provide 24-hour emergency care. Health services are also available through the Orange County Health Department located in the Civic Center. Other community health facilities in the community include the County of Orange East Regional Mental Health Services and Mental Health Association of Orange County.

Cultural Facilities. The principal cultural facility in Santa Ana is the Bowers Museum. The Bowers Museum describes the history and earlier culture of the Santa Ana/Orange County region. Current plans call for expansion in two phases to approximately four times its present size.

Governmental Facilities

Santa Ana has created an important multi-jurisdictional government center which serves not only City residents but those of the County-at-large. The Civic Center includes City Hall, central library and police facilities, as well as County, State and Federal offices. The Civic Center is readily accessible to all City residents, being located essentially in the center of the City. As discussed in the Circulation Element, access for regional visitors will be improved via recommendations made in that part of this General Plan.

Public Utilities. Because the City is largely built-out, its utility system are in place and generally fixed in nature. Increased development density resulting from land use objectives of this General Plan may require expansion of systems capacities and/or accelerated repair and maintenance programs. The City provides for such improvements in a systematic manner through its Capital Improvements Program, which is updated annually. Implementation of the Land Use element will be carefully coordinated with the Capital Improvements Program so as to ensure continuing adequacy of the public utility systems.

Plan Components

One of the most important recommendations of the Public Facilities Element is the creation of a public-private partnership to expand and upgrade City facilities and services. This recommendation is made in recognition of continuing limitations on available public funds. Municipal tax revenue constraints impede the City's ability to provide all of the facilities and services its residents and workers might otherwise enjoy. Therefore, means must be found to augment tax receipts available for public facilities and services such as the utilization of tax increment redevelopment funds.

A primary direction for creation of such a partnership lies in recent Federal tax legislation which raises limits on corporate charitable contributions. The potential exists for businesses and industries headquartered or otherwise doing business in Santa Ana to take a positive, supportive stance in assisting the City to provide higher levels of service by making financial contributions for that purpose while simultaneously realizing tax benefits for themselves.

Additional support for school facilities can be obtained through enactment of an ordinance requiring a school impactation mitigation fee from new residential developments. At the time this Element was adopted, school overcrowding was critical and new facilities badly needed. Such a measure can bring the development sector more fully into the broad community improvement effort.

Important opportunities for public-private partnership will be created in the Mixed Use Corridors and District Centers, where substantial new, relatively intense development is planned. These development opportunities are attractive and exciting ones and can provide new options for expansion of public facilities. New office or retail complexes, for example, can be planned to include space for public libraries and cultural facilities. Private properties can be designed to include spaces used both by their occupants and the public-at-large, at different times of the day.

As Santa Ana's development opportunities are realized, it will be important that the expansion, maintenance and repair needs of public utilities and other facilities are integrated into the Capital Improvement Program process in such a way that the new development does not overtax existing services.

Public Facilities

GOALS

1. Provide sufficient public, cultural, recreational, educational, social service and related facilities to meet the community's needs.
2. Promote active and sustained involvement by the public in the pursuit of excellence in Santa Ana's public facilities and programs.

OBJECTIVES

- 1.1 Provide adequate public facilities which are economical, convenient, and which reinforce community identity.
- 2.1 Create an on-going, public-private partnership in cultural, educational, recreational and social service facilities and programs.

IMPLEMENTATION POLICIES

- Provide the highest level of service at the lowest feasible public cost.
- Utilize new energy conservation opportunities to reduce operating costs.
- Participate in regional resource programs as appropriate.
- Encourage the development of Bowers Museum as both a community and regional facility.
- Encourage development and upgrading of programs to stimulate the visual and performing arts.
- Encourage the continuance and expansion of local business, service club, and private support for Santa Ana's community facilities.

IMPLEMENTATION PROGRAMS

- Investigate methods of private sector partnership with the City to expand and upgrade public facilities and services, such as contribution of funds in accordance with Federal tax laws governing corporate pre-tax charitable contributions.
- Develop and apply cost-benefit assessment techniques to public facilities expansion, service and development proposals.
- Enact a school impaction mitigation fee applicable to new residential development.
- Integrate cost-benefit and energy conservation techniques into facility development and operations standards.
- Coordinate facility development and expansion plans with regional facilities plans to maximize joint development where feasible.
- Continue to cooperate with the Bowers Museum on Wheels Program.
- Continue staff support for the Bowers Museum.
- Take a leadership role in the establishment of a Center for the Performing Arts.
- Sponsor periodic arts and cultural festivals.
- Encourage support and continue to formally recognize contributions of time, material and funds by local businesses, service clubs and individuals to such programs as those of the zoo, museum and library.

Public Safety

The Public Safety element aims to reduce to acceptable levels those risks associated with activities over which the City has some jurisdiction through the elimination of avoidable risks.

This goal can be made operational through assessment of acceptable levels of risk for fire, flood, civil disorder, incidence of crime, and other natural and man-induced potential safety hazards in the City, identification of ways risk can be reduced or avoided, and establishment of policies which will result in achievement of acceptable levels of risk.

Planning Factors

The ability of the City to meet public safety goals is influenced by its present risk management capacities, both in terms of needed physical plant and personnel.

Crime Management and Protection. The City's central police station is located in Civic Center Plaza. Built in 1962, the three-level facility has undergone a number of expansions and interior remodelings to meet space requirements of 430 + employees. This program of ongoing alterations to the existing police facility and annex building has promoted internal efficiency and takes advantage of the proximity of Courts, County Jail and other government facilities. In addition, the police department maintains four "storefront" communications points throughout the community rather than traditional precinct stations.

The increased use of non-sworn personnel in positions in which the training and skills of sworn personnel are not critical can measurably increase efficiency of the Department's resources.

Continuing the current emphasis on increased citizen involvement, through "Community Oriented Policing" programs and other outreach activities, presents a significant opportunity to increase the efficiency and effectiveness of crime prevention programs.

Fire Safety. Fire in residential, commercial and industrial structures is responsible for substantial damage each year. The risk of property damage and personal injury from fire can be reduced through a combination of fire prevention measures and fire suppression.

Fire prevention is obtained through building code restrictions on the use of flammable materials, fire resistance of building construction techniques and materials, and installation of fire alarm and suppression systems. These measures impose costs on property owners and tenants, with relatively small costs to the City for inspection.

Property maintenance standards including removal of excessive vegetation and standards for storage and use of flammable materials also are appropriate fire prevention measures requiring modest inspection costs.

Fire suppression is a major public safety cost for most cities. Fire suppression costs can be significantly reduced by appropriate prevention measures which reduce the incidence of fires and the severity and extent of fires that do occur. Cooperative measures with other cities can reduce the amount of equipment and manpower each jurisdiction must maintain to be prepared for "worst-case" fires.

The City Fire Department fulfills both fire protection and emergency medical responsibilities. The Department operates ten stations throughout Santa Ana, including a recently-completed administrative headquarters. These stations are well distributed, meeting a standard of 1½ mile service radii throughout the City, and the average response time is two to three minutes. The downtown area station experiences a high annual output of calls (2500). However, the overlapping responsibility of fire companies allows adequate response to emergencies.

Emergency Medical Services. The provision of emergency medical aid by the Fire Department is an important adjunct to general medical care services in the City. Lower-income, elderly, non-English speaking and undocumented persons depend on medical services provided by Fire Department paramedic personnel for many of their medical needs. The paramedic service fulfills a need not efficiently met by conventional medical services delivery systems.

Hazardous Materials. Transportation of hazardous materials through the City is an unavoidable consequence of its location along several major transportation routes—Interstate 5, Interstate 22, Interstate 55, the AT&SF rail line and Southern Pacific rail line.

Transportation of hazardous materials is safest if national standards for transportation of such materials are established and carefully monitored. In addition, such national standards should require coordination with local public safety officials so officials are prepared for emergency problems involving release of hazardous materials.

Emergency Preparedness. A number of emergencies may result in a need for a coordinated governmental response. Disasters can occur in many forms at unexpected times and places and in most instances neither natural or man-made disasters can be fully predicted or controlled. Continued readiness, particularly on the part of the City, is necessary to cope with sudden and varying exigencies of disasters.

Flood Safety. The City has two major drainage courses with potential for significant flooding: Santiago Creek and the Santa Ana River. The Santa Ana River, with its normally dry river bed and broad engineered channel banked by high earthen levees, does not appear to present a significant flood hazard. However, the Santa Ana River has a long history of overflowing its banks and flooding in the surrounding areas. In this century there have been fourteen incidents of flooding, most recently in 1980. Figure 1 shows areas susceptible to flooding.

Throughout the Santa Ana River Basin the potential exists for massive downstream flooding resulting from the failure of the Prado Dam. The potential flood inundation area along the Santa Ana River if Prado Dam failed while at full capacity is shown on Figure 2.13.

In order to assure acceptable levels of risk to people and property from flooding, the City has established flood plain management regulations in the flood prone areas. The flood plain management regulations require that new construction or substantial improvements in the flood prone areas must be elevated above the base flood.

Congress authorized advanced engineering and design studies for flood control along the Santa Ana River in 1976. Until the recommended improvements of the "All River Plan" are completed in the early 1990's, potential hazards to life and property from flooding will continue. Potential flood damage can be minimized until the completion of improvements along the Santa Ana River and Santiago Creek by coordinating preparedness planning between emergency response and disaster relief agencies.

Plan Components

Major thrusts of the Public Safety programs focus on crime, fire and disaster prevention; involvement of the public in crime and fire prevention programs; strict enforcement of safety features of building and zoning codes; completion of physical improvements related to flood control; and maintenance of emergency preparedness programs.

Throughout the recommendations runs a theme of efficient and effective use of available financial, personnel and material resources. In an era of limited financial options, the City is concentrating on maximizing the impact of its existing plant rather than depending upon expansion activities.

The City maintains an Emergency Services Plan which provides direction and guidance for officials and citizens in the event of emergency. The plan covers emergencies related to earthquakes, floods, major fires and/or explosions, industrial accidents, bomb threats and explosions, utility failures, interruptions and reductions, radiological hazards, welfare and mass care, water quality emergencies, traffic control and hazardous materials spills.

Public Safety

GOALS

1. Provide a safe and secure environment for all Santa Ana residents and workers.
2. Minimize loss of life and property due to natural and man-made catastrophes.

OBJECTIVES

- 1.1 Reduce crimes against persons and property.
- 1.2 Effectively manage risks associated with earthquakes, floods, fires and hazardous materials.
- 2.1 Maintain an effective emergency preparedness plan and program.

IMPLEMENTATION POLICIES

- Maintain or increase the level of local law enforcement activity.
- Assure minimum feasible response time to police calls in all areas of the City.
- Increase the effectiveness of law enforcement activities through expansion of crime prevention measures and the active involvement of the public in local law enforcement programs.
- Assure minimum feasible response time to fire calls in all areas of the City.
- Strictly enforce safety provisions of building and zoning codes.
- Assure acceptable levels of risk to people and property from flooding and from toxic materials.
- Consider maintenance of emergency preparedness programs as a high municipal investment priority.

IMPLEMENTATION PROGRAMS

- Fund law enforcement activities on a priority basis.
- Continue use of non-sworn personnel in appropriate law enforcement junctions.
- Annually assess efficiency of police fleet and personnel deployment plans as related to police call patterns and modify as appropriate.
- Continue neighborhood watch, crime alert and other resident participation programs.
- Expand public education activities directed to increasing personal, home and business premise security.
- Continue “storefront” police center and foot patrol programs.
- Annually assess effectiveness of fire unit deployment plans as related to fire call patterns and modify as appropriate.
- Continue public education programs directed to fire prevention and awareness.
- Continue zoning and building code enforcement programs designed to reduce overcrowding in residential units.
- Initiate a systematic code enforcement program for rental housing.
- Enforce seismic safety provisions of the building code with respect to both new and existing structures.
- Continue to enforce the requirements of the Flood Plain Management Ordinance.
- Cooperate in the completion of improvements to the Santa Ana River channel and Santiago Creek.
- Systematically prioritize storm drainage needs in the City’s annual Capital Improvements Program.
- Develop and/or support local and regional programs to improve solid waste disposal standards and programs, especially those dealing with toxic substances.
- Support strict safety standards for transportation of hazardous materials through the City.
- Review emergency preparedness and operational plans annually and modify as necessary to assure continued efficiency.
- Seek financial support for emergency management programs from applicable Federal and State sources such as hazardous materials transport user fees authorized by the Federal government.

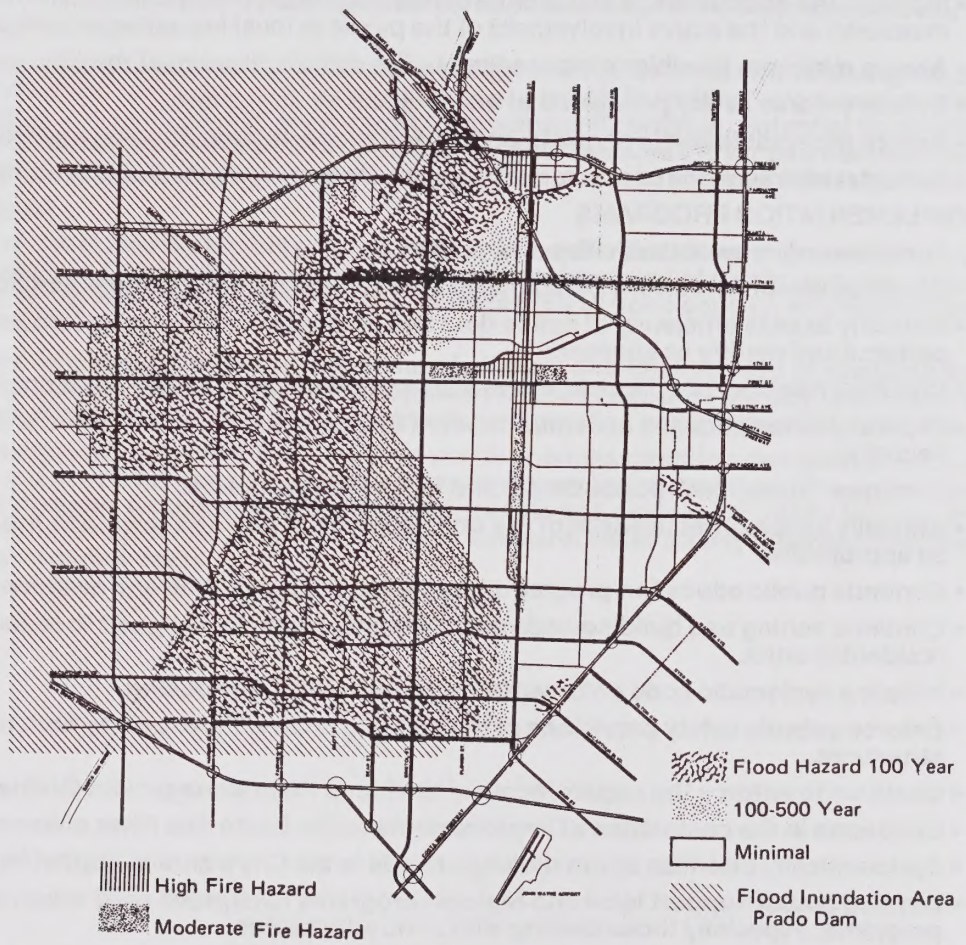


Figure 2.13 Flood and Fire Hazard Areas

Conservation

The Conservation element is concerned with the protection, utilization and development of natural and cultural resources. It emphasizes scarce resources and those needing special attention or management, and aims to prevent their exploitation, neglect or destruction.

Planning Factors

Santa Ana is a built-up, urban community. As a result, readily-apparent resources, such as natural habitat and wildlife, are limited. Certain stretches of Santiago Creek offer undisturbed plant and wildlife environments. Open space lands held for park and recreational uses offer important opportunities for enjoyment of a rare urban resource: open space. Other natural resources for which conservation efforts are appropriate are more difficult to see; they include clean air, water, and land itself.

Man-made resources appropriate for conservation are more plentiful in an urban environment than natural ones. Such resources include relics of our pre-history; examples of our early building and living styles; historic and current contributions to our cultural life; and our use of buildings, space and life forms to stimulate our aesthetic senses.

Both natural and man-made resources are important to the quality of life enjoyed by Santa Ana's residents.

Plan Components

Major features of the Conservation element include protection of the public health, safety and welfare through effective management of natural resources such as clean air, water and land; preservation of those natural and cultural resources existing today, such as waterways, natural habitats, open spaces, historic buildings and pre-historic remains; and enhancement of the City's aesthetic and visual amenities through increased use of vegetation and restoration of historic and cultural resources.

Conservation concerns are closely related to open space and recreation objectives. The following element deals with these matters. Conservation objectives also are related to recommendations found in the Scenic Corridors element, which seeks to preserve and enhance natural and man-made resources found in travel corridors throughout the City.

Conservation

GOALS

1. Protect the public health, safety and welfare through effective management of natural resources.
2. Preserve, maintain and properly use natural and cultural resources.
3. Preserve and enhance the aesthetic and environmental quality of the community for the enjoyment of all residents.

OBJECTIVES

- 1.1 Reduce air pollution emissions to achieve national ambient air quality standards.
- 1.2 Provide sufficient water of adequate quality for all users.
- 1.3 Provide safe, land-conserving disposal of solid waste.
- 1.4 Assure adequate sewer treatment facilities to meet population and economic growth requirements.
- 2.1 Conserve water resources in commercial, industrial, residential and recreational uses.
- 2.2 Integrate natural and cultural resource protection measures into land use and development activities.
- 3.1 Minimize loss of natural aesthetic, historic, archeological and paleontological resources as land is developed.
- 3.2 Increase planting of trees, bushes, shrubs and flowers on public and private property.

POLICIES

- Support local and regional land use and transportation plans that increase mass transit usage and reduce vehicle trips.
- Enforce emission standards contained in local ordinances.
- Support identification and development of new sources of water.
- Cooperate in the development of a regional solid waste disposal plan and program which is efficient and land-conserving in nature.
- Encourage multiple use of water and other natural resource facilities, such as reservoirs and flood control channels.
- Encourage water conservation through design and facilities features of new developments.
- Use provisions of the open space plan as means to achieve applicable conservation objectives.
- Encourage private sector participation in natural and cultural resource protection activities.
- Maximize the City's aesthetic and visual appeal by increasing vegetation throughout the community and by enhancing architectural, historic and other visual resources.
- Preserve vegetation along watercourse channels.

PROGRAMS

- Implement the Mixed Use Corridor and District Center components of the Land Use element and their transit features.
- Assign development approval priorities to proposals which minimize vehicular trips and other pollution sources.
- Incorporate particulate and other emission standards into the building permit process and zoning ordinance.
- Cooperate with Metropolitan Water District efforts to develop additional water sources.
- Condition development approvals upon adequate sewer treatment capacity.
- Develop and/or support regional solid waste disposal programs with high safety and land conservation standards.
- Develop local water recycling programs and cooperate with regional recycling efforts.
- Incorporate water conservation standards into the zoning ordinance and building permit process.
- Implement on a priority basis provisions of the open space section which encourage multiple use of natural resources such as waterways for both health and safety and recreational/aesthetic junctions.
- Inventory existing historic, archeological, paleontological, and cultural sites and districts.
- Require preservation of natural and cultural resources as a condition of building permit approvals.
- Develop incentives in the zoning code to encourage protection and enhancement of natural, cultural and historic resources.
- Develop a citywide landscaping plan and improvement program.
- Require site plans to incorporate existing or add new plant materials that are related to Santa Ana's history, climate and cultures.
- Use drought resistant and durable landscaping materials.
- Participate in greenbelt and channel improvement plans for the Santa Ana River and Santiago Creek which aim to preserve natural vegetation.

Open Space and Parks and Recreation

Open space land is a limited and valuable resource, one becoming increasingly precious as the City takes on a more urban character. The Open Space, Parks and Recreation element sets forth the City's priorities for retention and treatment of this important element of urban life.

Planning Factors

Santa Ana presently has about 400 acres of public park and recreation facilities distributed generally uniformly throughout the City. Approximately two acres of open space exists for each 1,000 residents, a rate consistent with prevailing standards. Little current or future potential exists for the acquisition of additional park lands and open spaces, both because the City is almost fully developed and because demands on capital funds are highly competitive.

The Santa Ana River and Santiago Creek are part of a regional system of open space corridors promoted by the Orange County General Plan Open Space Element. Centennial Park is located in a relatively central position in the City and also is an important node of open space within the regional system. These links to a regional system of open space will become increasingly significant to Santa Ana residents as the City builds out.

Many of the goals of the Conservation element can be promoted through Open Space policies. Parks provide increased vegetation and constitute one of Santa Ana's few readily-identifiable natural resources.

Plan Components

Since available vacant land is an increasingly scarce commodity, the primary thrust of the plan is to upgrade, enhance and improve the quality of existing park and open space facilities, and to expand the range of programming and services offered in connection with those spaces. In the urban setting, reaching the goal of high quality recreational and open space should take priority over objectives relating to quantity. The plan also calls for multiple use of open space facilities, such as flood control channels, reservoirs, and the like, for recreational as well as conservation functions. Finally, in recognition of limited financial resources, the plan suggests the development of means by which the private sector can more readily participate in the provision of open space and recreation opportunities for all Santa Ana residents.

Open Space, Parks and Recreation

GOALS

1. Provide sufficient open space to meet the recreational and aesthetic needs of the community.
2. Ensure ready public access and use of open space facilities.
3. Utilize open spaces as means of reinforcing goals set forth for conservation of natural resources.

OBJECTIVES

- 1.1 Protect key open space areas through public ownership.
- 1.2 Encourage private development of publicly accessible, commercial open space.
- 1.3 Encourage private development of visually accessible open space.
- 2.1 Sustain an on-going program of park and open space improvement.
- 2.2 Encourage positive linkages between public and private open space.
- 3.0 Pursue multiple use of publicly owned land.

IMPLEMENTATION POLICIES

- Provide quality open space in quantities adequate for the type and intensity of surrounding development.
- Treat open space development and facilities upgrading as priority investment objectives.
- Balance priorities for open space acquisition and development with evolving community needs.
- Provide incentives for private enterprise to supplement public open space.
- Encourage development of reservoirs, flood control channels and other public lands for recreational uses.

IMPLEMENTATION PROGRAMS

- Implement a park and recreational facilities phasing program which prioritizes needs in the City's more intensely-developed neighborhoods.
- Initiate a program of joint school-community use of school recreational facilities to expand usable public spaces.
- Implement master plans for parks and related actions called for by the 1980 UPAR Recovery Action Program.
- Sell or otherwise dispose of surplus publicly-owned land only upon a finding that open space needs have been met.
- Develop and implement a systematic program of park rehabilitation with emphasis on lighting, game court and play equipment additions and landscaping improvements.
- Develop and implement a comprehensive sign system for parks to improve their access and image.
- Develop expanded recreational programming in parks and other open space facilities, including use of bi-lingual personnel.
- Develop incentives in the zoning code to encourage creation and preservation of open space within development projects which will be accessible to or viewed by the public.
- Encourage multiple use of open spaces in private developments.
- Promote adoption of reservoir, flood control channel and other public open space improvement plans which provide for multiple use of such resources.

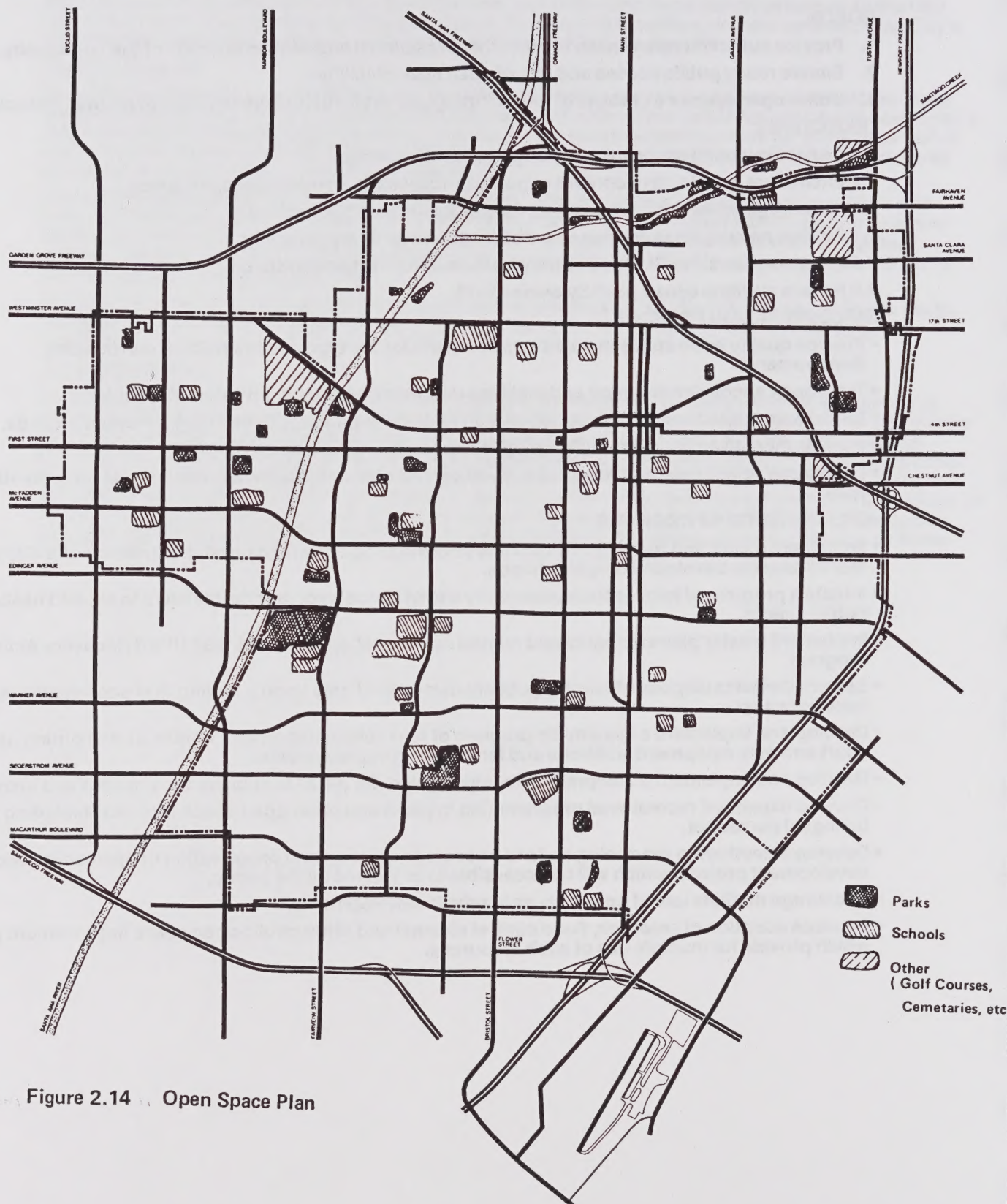


Figure 2.14 Open Space Plan

Scenic Corridors

Scenic corridors are linear features of the City through which people and vehicles move. They include streets, highways and waterways, with their associated pedestrian ways and biketrails. This element of the General Plan is designed to identify Santa Ana's scenic corridors and thereby to designate them for special treatment and improvements.

Planning Factors

No County-designated scenic highways run through Santa Ana. However, a number of major transportation system and open space systems, such as the freeways, the Santa Ana River, Santiago Creek and Harbor Boulevard are of regional significance in that many residents of the County form their image of Santa Ana from their travels along these corridors.

Enhancement of that image will accrue to the several levels of treatment possible within scenic corridors, from paving, lighting and signage design, to careful treatment of land use relationships and natural and man-made features visible from within the corridors.

Plan Components

The foundation of the Scenic Corridors plan is the series of Mixed Use Corridors which underlies the entire General Plan. As will be seen on the map, Figure 2.16, the primary street corridors are First/Fourth Streets, Main-Broadway, and MacArthur Boulevard. These primary corridors are significant transportation and activity features of the City, and are accessible from all freeways. At the edges of the City, these primary corridors form major City entry points, where strong statements of Santa Ana identity can and should be made.

Secondary corridors provide "stitching" to link neighborhoods, District Centers and Mixed Use Corridors together. Their continuity is interrupted by the primary corridors; these intersection points should be used to give the traveler a sense of entering major activity centers.

Harbor Boulevard, the traditional north-south link from the ocean to inland destinations, and Fairview Street, now proposed as a major, limited-access thoroughfare, are designated as inter-city corridors in recognition of their functions as major image-makers for the City.

The Newport, Santa Ana and Garden Grove Freeways are high-speed scenic corridors operating at a regional scale. They influence Santa Ana's image. Therefore, the plan calls for two types of high-speed corridor treatment: buffer edges to screen unsightly or unnecessary views from the freeways; and landscaped edges designed to promote selected views into the City.

Additional regional corridors are the Santa Ana River and Santiago Creek, which are part of the County Open Space network and which are specifically addressed in the Open Space element.

A series of specific visual and aesthetic improvements are recommended for the Scenic Corridors. Phasing priority should be given to the primary Mixed Use corridors and/or to corridors in which near-term development is expected to take place.

Scenic Corridors

GOALS

1. Improve the public image and expand the functional utility of the City's linear transportation and open space corridors.
2. Use scenic corridors to provide identity, form, and an orientation framework for the City.
3. Conserve and enhance the existing scenic, functional and historic qualities of all streets and linear corridors.

OBJECTIVES

- 1.1 Improve and develop the public portions of streetscapes in a comprehensive manner.
- 1.2 Support development of flood control channels and waterways with aesthetic and recreational features.
- 1.3 Encourage improvement and maintenance of private properties along scenic corridors.
- 2.1 Provide scenic linkages between the Downtown/Civic Center and adjacent neighborhoods.
- 2.2 Provide scenic linkages between key historic sites, circulation elements and recreation areas.
- 2.3 Enhance the attractiveness of neighborhoods, neighborhood edges, and other Framework Plan components.
- 2.4 Integrate key circulation elements, open space areas, recreation features, historic sites and public facilities into the fabric of the scenic corridors.
- 3.1 Apply the goals and objectives of the Conservation and Open Space elements to achieve pertinent goals within scenic corridors.

IMPLEMENTATION POLICIES

- Ensure that development within scenic corridors takes place at a scale and is designed to that aesthetic features are consistent with the function of scenic corridors as part of the Framework Plan.
- Ensure that development in the Downtown/Civic Center area and adjacent neighborhoods is planned so as to reinforce or create scenic linkages.
- Ensure that development surrounding key historic sites, recreation and open space areas and circulation corridors is planned so as to reinforce or create scenic linkages in these areas.
- Integrate bicycle and pedestrian trails in scenic corridors where possible.
- Utilize the Capital Improvements Program to systematically upgrade the visual appeal of the City's streetscapes.

IMPLEMENTATION PROGRAMS

- Adopt Scenic Corridor Design Guidelines to govern all aspects of streetscape aesthetics at the specific plan approval stage.
- Screen unsightly uses which can be viewed from scenic corridors.
- Prohibit additional obtrusive land uses in the corridors.
- Enforce anti-litter ordinances within the corridors.
- Prohibit billboards and obtrusive neon and flashing signs within scenic corridors.
- Ensure that the size, height, quantity and type of on-premises signs are not obtrusive to views within and from the corridors.
- Require undergrounding of new and relocated utilities.
- Institute graffiti removal and prevention programs within the corridors.
- Promote unique, image-enhancing freeway landscaping where highways pass through the City by providing continuing input to CalTrans landscape planning activities.
- Selectively landscape freeway corridor edges to screen undesirable scenes while promoting views of identifiable City features.
- Ensure that landscaping at freeway interchanges which correspond to major City entry points is more visually significant than is the case with other interchanges.
- At major entry points to the City, install distinctive identity features such as entry monuments, directional information, City name, landscape statement, traffic lights, special street lighting and minor architectural elements.

- At minor entry points to the City, install identity statements of a less dramatic visual nature than those at major entry points.
- Include bicycle and pedestrian trail improvements for Scenic Corridors in the Capital Improvements Program.
- Coordinate with County on integrated bicycle-equestrian trail on Santa Ana River.
- Create a Master Plan for City's medians.
- Assign phasing priorities to streetscape improvement programs for Scenic Corridors.
- Investigate means by which private property owners and the public-at-large can contribute to Scenic Corridor improvement programs.
- Identify unique scenic features of neighborhood streets which should be preserved and enhanced.

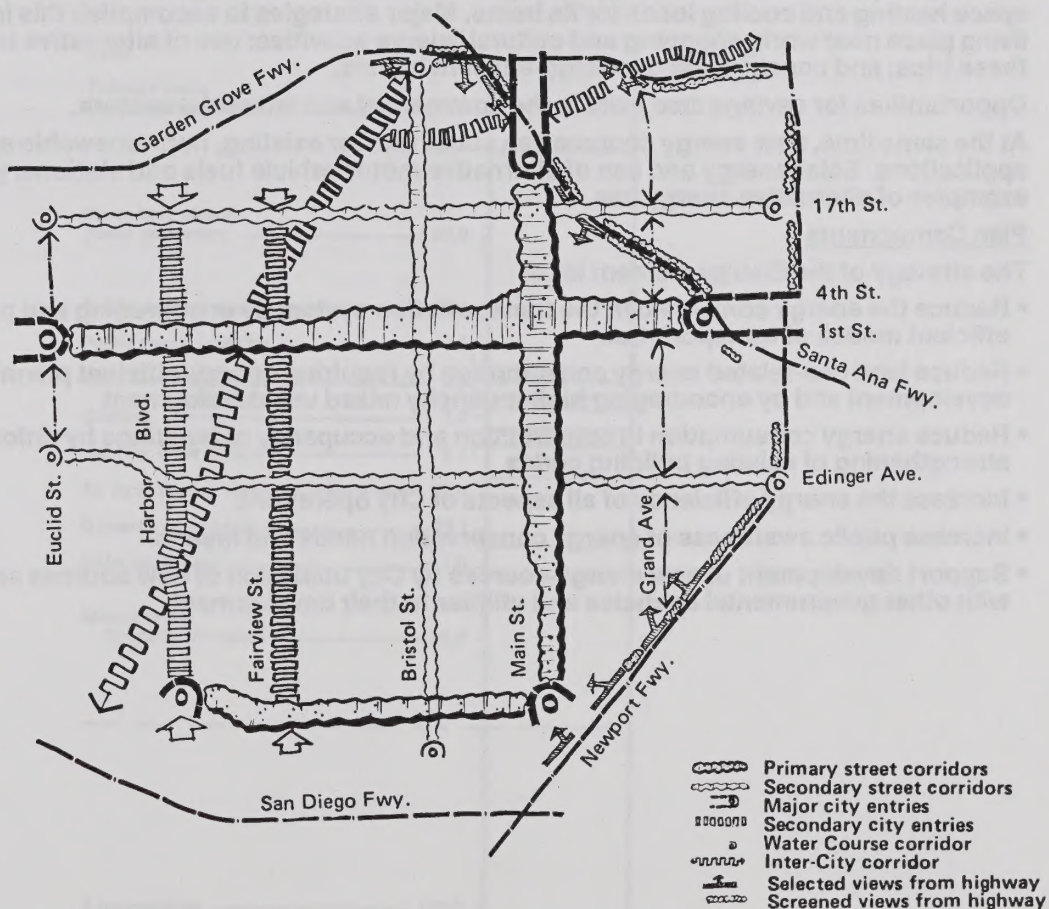


Figure 2.15 Scenic Corridors Plan

Energy

The importance of energy conservation has become more apparent in recent years with increases in the price of energy. The national interest is best served if dependence on foreign energy sources is diminished. Reduction of energy consumption is important in reducing the environmental impact of coal and nuclear energy generation.

The purpose of this section is to provide policies and programs for reducing energy consumption and increasing utilization of new energy sources.

Planning Factors

As shown in Figure 2.17, Santa Ana's energy comes from many sources and has many end uses. The City itself is not a utility owner. The largest components of energy use are, in order:

- transportation (gasoline and diesel fuel)
- energy conversion and transmission bases
- residential natural gas and electricity

Figure 2.18 shows a typical Southern California family's energy use according to information from utilities and common energy use estimates. The largest components of household energy use are automobile transportation, home heating and air conditioning and domestic water heating.

Because of the large amount of energy waste involved in electric power generation, savings at the user end also result in savings in conversion and transmission.

Energy conservation itself is a source of energy because it is a substitute for additional energy. To be most effective, City policy should concentrate on those areas where the greatest amount of energy can be saved and in areas where the local jurisdiction is the most appropriate strategic level.

The major opportunities for energy savings for a family lie in saving auto miles travelled and in reducing space heating and cooling loads for its home. Major strategies to accomplish this include location of the living place near work, shopping and cultural/leisure activities; use of alternative transportation to make these trips; and construction of energy-efficient homes.

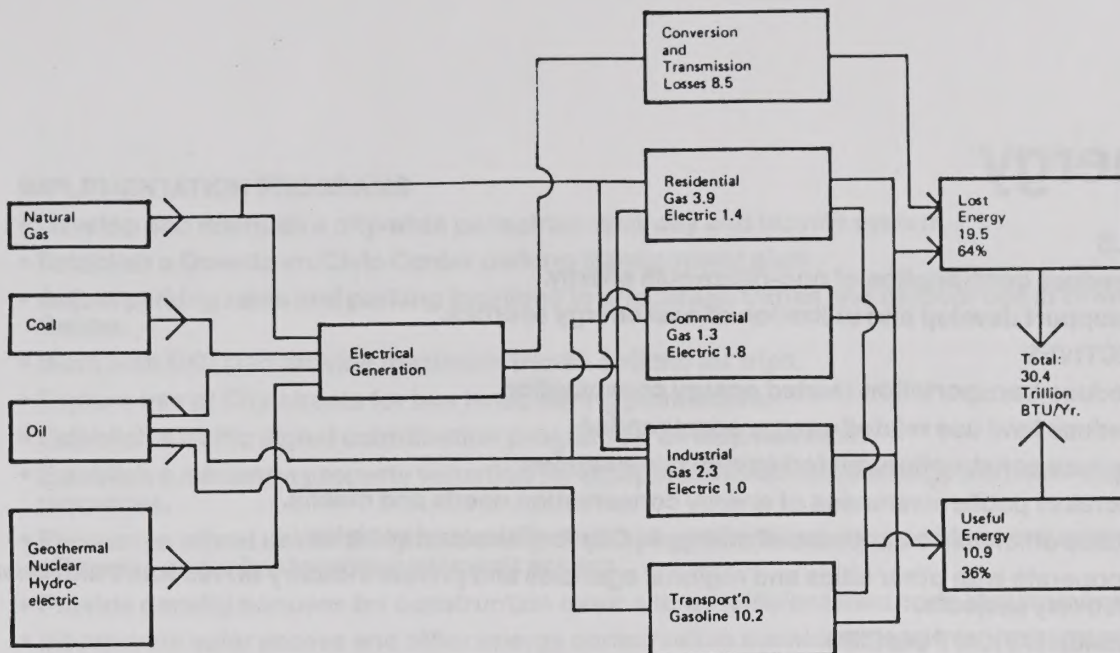
Opportunities for savings also exist in the commercial and industrial sectors.

At the same time, new energy sources can substitute for existing, non-renewable sources in some applications. Solar energy and use of alternative motor vehicle fuels and stationary boiler fuels are examples of alternative energy use.

Plan Components

The strategy of the Energy element is to:

- Reduce the energy consumed in the transportation system by encouraging and providing for energy-efficient modes of transportation
- Reduce land use-related energy consumption by requiring energy-efficient planning of new development and by encouraging higher density mixed use development
- Reduce energy consumption in construction and occupancy of buildings by enforcement and strengthening of existing building codes
- Increase the energy efficiency of all aspects of City operations
- Increase public awareness of energy conservation needs and means
- Support development of new energy sources by City utilization of new sources and City cooperation with other governmental agencies and utilities in their development.



UNITS: Trillions of BTU's per year

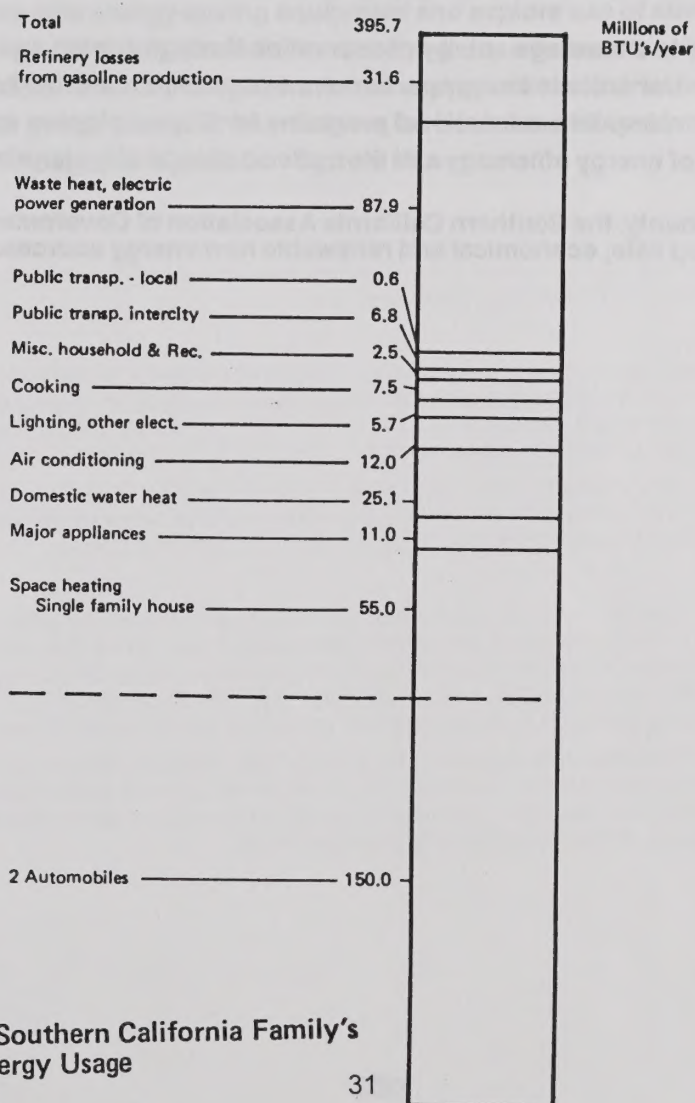
Sources:

Southern California Gas Co.
Southern California Edison
State of California Board of Equalization
Orange Co. Office of Forecast and Analysis
Automobile Club of Southern California

Estimate based on recent city of
Los Angeles study published in
"Energy/LA" section of Los
Angeles Times

Simplified Model of Energy Flow

Figure 2.16



A Typical Southern California Family's
Annual Energy Usage

Figure 2.17

Energy

GOALS

1. To reduce consumption of non-renewable energy.
2. To support develop and utilization of new energy sources.

OBJECTIVES

- 1.1 Reduce transportation-related energy consumption.
- 1.2 Reduce land use related energy consumption.
- 1.3 Reduce construction-related energy consumption.
- 1.4 Increase public awareness of energy conservation needs and means.
- 2.1 Utilize efficient new sources of energy in City facilities and vehicles.
- 2.2 Cooperate with other cities and regional agencies and private industry on resource and energy recovery projects.

IMPLEMENTATION POLICIES

- Provide energy efficient modes of transportation and fixed facilities to encourage transit, bicycle and walking as regularly used modes of travel.
- Maintain a smooth flowing street system which facilitates energy conservation.
- Encourage energy conservation through the City's taxing power.
- Encourage higher densities of housing and office (mixed use) development to relate to areas of higher transportation access and capacity.
- Require and/or provide incentives for energy-efficient subdivision and site planning and building design.
- Develop legal means to encourage energy conservation through zoning and building codes.
- Establish, update and/or enforce energy performance requirements in the building code.
- Develop public or private-public educational programs for City employees and the public.
- Introduce concepts of energy efficiency and life cycle costing to city planning and operating decisions.
- Work with Orange County, the Southern California Association of Governments (SCAG) and the utility companies to develop safe, economical and renewable new energy sources.

IMPLEMENTATION PROGRAMS

- Develop and maintain a city-wide pedestrian walkway and bicycle system.
- Establish a Downtown/Civic Center parking management plan.
- Adjust parking rates and parking locations to encourage transit and carpool use in Downtown/Civic Center.
- Work with OCTD to provide maximum transit options for trips.
- Explore use of City streets for bus lanes during peak hours.
- Establish a traffic signal coordination program on all major streets.
- Establish a minimum property valuation for equipment which uses energy from non-depletable resources.
- Encourage mixed use and higher density development in mixed use corridors and near freeway on and off ramps and other locations of transit access.
- Provide density bonuses for construction more energy-efficient than code requirements.
- Incorporate solar access and other energy conservation considerations into zoning code.
- Educate public officials to enforce provisions of the California Energy Code, Title 20 and Title 24, and subsequent codes.
- Compile an energy profile and information base/source of information.
- Provide manuals/standards and instructions for City building managers, maintenance people and employees, and users of fleet vehicles.
- Perform energy audits and retrofits for existing municipal buildings for energy-efficient operation.
- Buy or lease fuel-efficient vehicles for City use—provide standards for use by operators. Retrofit existing vehicles with energy-saving equipment and explore use of alternative emergency fuels.
- Provide an energy efficiency checklist for use by all departments in submitting purchase requests.
- Explore solid waste fuels and co-generation of energy with industrial firms and utility companies.
- Encourage solar power and solar heat fixtures for business and residential.
- Conserve fuel through Transportation System Management.

Noise

Noise has many sources, including industrial processes, vehicular transportation, use of amplified sound, construction, and human speech. Through careful land use planning, Santa Ana can ensure that the activities which produce noise result in minimal interference with the activities which are sensitive to noise.

The City's goal is to minimize noise problems in areas sensitive to noise. Because Santa Ana is almost fully developed, the main focus of the Noise section is on remedial measures to deal with existing noise problems, prevention of new noise problems through proper arrangement of noise sensitive land uses in relationship to circulation systems and other noise sources, and establishment of appropriate noise emission or insulation standards for the various land uses.

Planning Factors

Definition of undesirable or unhealthful noise levels must precede the goal of minimizing noise problems. The City adopts the following standards and guidelines for noise levels for land uses:

Land Use	Noise Level, db CNEL or Ldn	
	Desirable	Maximum
	Maximum	Acceptable
Residential, Low Density	55	65
Residential, Medium Density	60	65
Residential High Density	65	70
Schools	60	70
Commercial, Office	65	75
Industrial	70	75

All residential uses should be protected with sound insulation over and above that provided by normal building construction when constructed in areas exposed to greater than 60 dB CNEL.

The above standards and guidelines represent an appreciation that higher intensity land uses bring with them higher noise levels simply because more people are using these areas. Insuring low noise levels will help to insure that housing is kept well-maintained and keeps its value over time, reducing municipal expenditures and maintaining revenues.

Noise Abatement

Some areas of Santa Ana are now exposed to levels of freeway or rail noise that are considered unacceptable for new residential development. Noise conflicts in such cases can be mitigated by providing barriers between the noise source and the residential use, or by providing sound insulation in existing residences. Generally, barriers are chosen because of their lower cost and more general benefit.

Figure 2.19 illustrates transportation noise sources in the City and classifies arterial streets by the expected distance from the arterial where the noise level will exceed 60 dB CNEL or Ldn and sound insulation or barriers should be provided to protect residential uses.

Noise Prevention

Potential noise problems may be prevented by ensuring that planning for residential uses carefully considers proximity to major transportation corridors and other noise generators. Adherence to proper noise-related setbacks for noise sensitive uses can reduce noise to acceptable or desirable levels for those uses. The distance required varies with the expected volume of traffic. The distance may be reduced by providing walls or berms between the noise source and the use.

The graph below indicates the required distances from transportation noise sources to achieve desired noise levels for a range of traffic flows. At the time development takes place, developments proposed in zones that would be incompatible under standards of the noise abatement plan are required to include a report indicating how these standards will be achieved.

Noise

GOALS

1. Prevent significant increases in noise levels in the community and minimize the adverse effects of currently-existing noise sources.

OBJECTIVES

- 1.1 Prevent creation of new and additional sources of noise.
- 1.2 Reduce current noise levels to acceptable standards.

IMPLEMENTATION POLICIES

- Require consideration of noise generation potential and susceptibility to noise impacts in the siting, design and construction of new developments.
- Require mitigating site and building design features, traffic circulation alternatives, insulation, and other noise prevention measures of those new developments which generate high noise levels.
- Sound insulate and/or buffer sensitive land uses such as housing from adverse noise impacts in noise-prone areas.
- Minimize noise generation in residential neighborhoods through control or elimination of truck traffic and through-traffic from these areas.

IMPLEMENTATION PROGRAMS

- Restrict new zoning in noise impact or abatement areas to non-residential uses.
- Review zoning ordinances and modify as necessary to assure appropriate insulation and/or other noise reduction actions with respect to interior and exterior power and mechanical equipment.
- Utilize the development approval process to assure that buildings are sited and internal and external traffic circulation systems designed so as to minimize the impact of noise-generating activities on nearby neighborhoods and noise-sensitive land uses.
- Work with the California Department of Transportation to develop a freeway noise mitigation program.
- Prohibit truck traffic in residential neighborhoods.
- Alleviate through-vehicular traffic in residential neighborhoods via implementation of recommendations in the Circulation section.

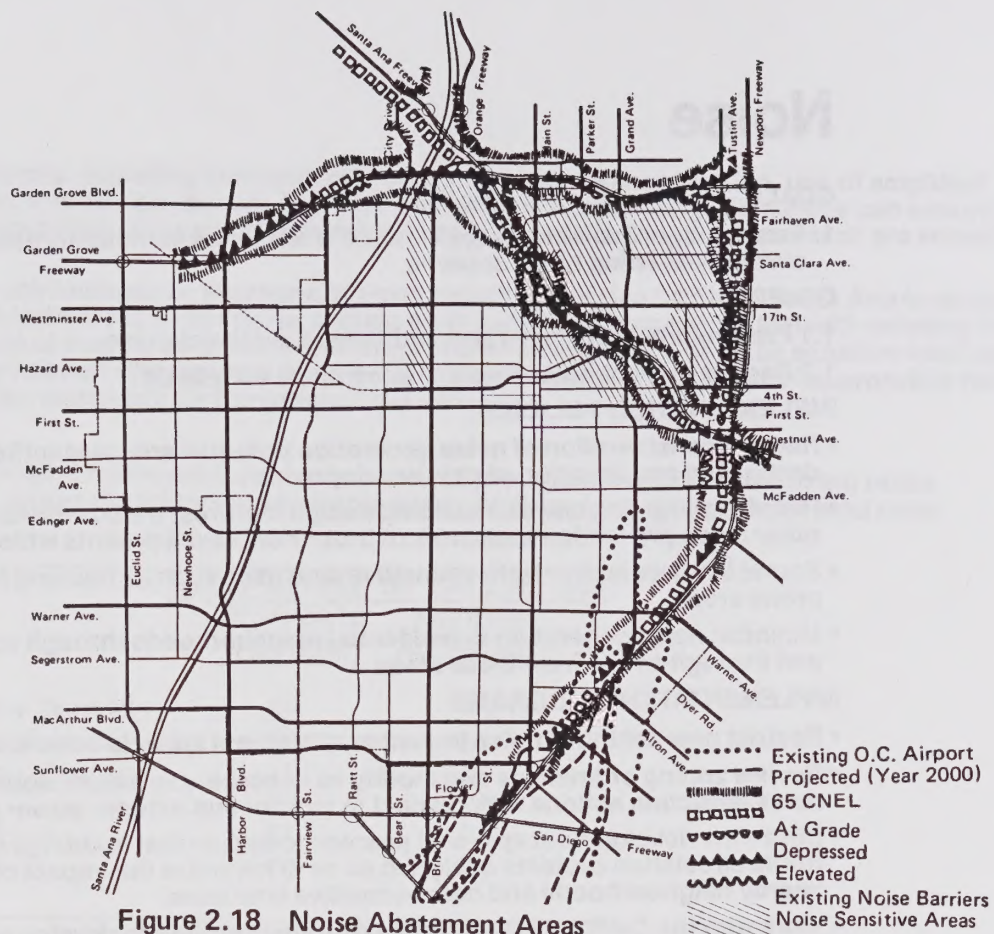


Figure 2.18 Noise Abatement Areas

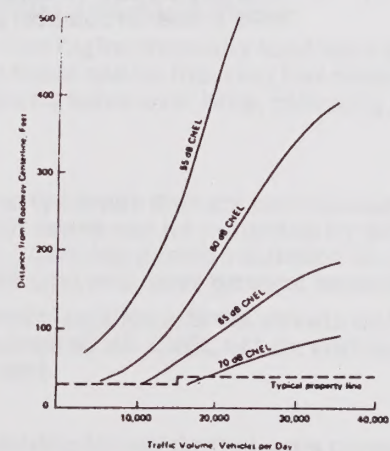


Figure 2.20 Required Distances from Transportation Noise Sources

Traffic Volume ADT (per Thousand)	Distance From Right-of-Way to 65 CNEL Contour
30+	100+ feet
20-30	50-100 feet
15-20	25-50 feet
10-15	0-25 feet

Figure 2.19 Transportation Noise Sources

Seismic Safety

Seismic Safety consists of identification and appraisal of seismic hazards including susceptibility to surface ruptures, groundshaking and ground failures. The aim of seismic safety is to reduce deaths, injuries, damage to property, and economic and social dislocation resulting from earthquakes and other geologic hazards.

The Seismic Safety element is primarily a vehicle for identifying hazards that must be considered in planning the location, type, and density of development throughout Santa Ana.

Planning Factors

No faults, active, potentially active, or inactive are known to exist in Santa Ana. However, Santa Ana is in close proximity to two major faults: the Newport-Inglewood Fault Zone and the Whittier-Elsinore Fault Zone. The San Andreas and Raymond Faults are also proximate to Santa Ana. Of these faults, the Newport-Inglewood Fault Zone should be considered the most likely source for future earthquakes. Seismic parameters associated with each of the active faults (those most likely to produce the greatest earthquake shaking intensities within the City) are listed in Table 1.

TABLE 1
SEISMIC PARAMETERS FOR THE CITY OF
SANTA ANA, CALIFORNIA

POTENTIAL CAUSATIVE EARTHQUAKE FAULT	GREATEST DISTANCE FROM FAULT TO SITE	LENGTH OF FAULT	RICHTER MAGNITUDE OF HISTORICAL EARTHQUAKE	APPROXIMATE AGE OF MOST RECENT SURFACE DISPLACEMENT	MAXIMUM PROBABLE EARTHQUAKE (DESIGN EARTHQUAKE)			
					MAXIMUM CREDIBLE EVENT			
					RICHTER MAGNITUDE	BEDROCK ACCELERATION AT SITE (FRACTION OF GRAVITY)	RICHTER MAGNITUDE	BEDROCK ACCELERATION AT SITE (FRACTION OF GRAVITY)
SAN ANDREAS FAULT (SOUTH OF GARLOCK FAULT)	64 km 40 mi	500 km 310 mi	8.0 ± 0.5 (1857) 6.5 (1948)	HISTORIC (1857 and 1948)	8.25	.20	8.25	.20
RAYMOND FAULT	48 km 30 mi	26 km 16 mi		HISTORIC	6.8	.15	6.5	.10
WHITTIER-ELSINORE AGUA CALIENTE FAULT	20 km 12.5 mi	260 km 162 mi	5.5 (1938) 6.0+ (1910)	HISTORIC (1910)	7.1	.33	6.6	.27
NEWPORT-INGLEWOOD	13 km 8 mi	80(+) km 50(+) mi	6.3 (1933)	HISTORIC (1933, unconfirmed)	7.1	.42	6.5	.35

Historically, Santa Ana has been exposed to other geologic hazards not necessarily associated with earthquakes. Subsidence and liquefaction are the two of primary concern in Santa Ana.

Subsidence is a general lowering of the ground surface over a large area. Area subsidence has occurred within various parts of the City and is generally attributed to lowering of the ground water levels, settlement of peat and oxidation of peat.

More localized or focal subsidence or settlement of the ground can occur as a result of earthquake motion. This type of settlement and consequent differential settlement results from compaction of loose cohesionless soils.

Figure 2.22 delineates those areas of Santa Ana with the greatest potential for subsidence. The potential for ground subsidence is largely dependent on the magnitude, duration and frequency of the earthquake waves. The design earthquake in Santa Ana is one of a long period rolling-type motion rather than intensive high frequency shaking making the occurrence of subsidence less likely. The potential for area and focal ground subsidence due to earthquakes is relatively low in Santa Ana.

Soil liquefaction is the phenomenon in which water saturated cohesionless soil temporarily loses its strength when subjected to dynamic forces. The soils primarily vulnerable to liquefaction are saturated sands in a loose to medium dense condition.

The areas of Santa Ana estimated to be susceptible to liquefaction are shown on Figure 2.23. The potential for liquefaction is believed to be the greatest in those areas in which the ground water is less than 20 feet in depth, and the soils are predominately clean, relatively uniform sands of loose to medium relative density.

The probability of liquefaction occurring is relatively small because of the type of earthquake expected and the distance from active faults. However, the possibility of soil liquefaction should be considered in the planning, design and construction of structures located within potential liquefaction areas.

Seismic

GOALS

1. Provide a safe environment for all Santa Ana residents and workers.
2. Minimize the effects of natural disasters.

OBJECTIVES

- 1.1 Provide a high level of life safety in structures with high occupancy such as schools and hospitals.
- 1.2 Reduce risks presented by older structures with inadequate earthquake-resistant design.
- 1.3 Minimize seismic risk in the construction of new structures.
- 2.1 Minimize the probability of loss of function of key disaster response facilities in emergencies.
- 2.2 Minimize adverse impact on individuals and businesses of seismic disasters through assistance in reconstruction.

IMPLEMENTATION POLICIES

- Use a higher standard of design for structures with high occupancy than for other structures.
- Require older structures to meet minimum seismic standards within a reasonable time or be vacated.
- Locate and design key public facilities to minimize risk, including communication, command/control and emergency medical facilities.

IMPLEMENTATION PROGRAMS

- Enforce seismic design provisions of the Uniform Building Code.
- Identify all unreinforced masonry buildings.
- Develop seismic standards specifically addressed to architecturally or culturally significant older buildings.
- Develop a risk assessment and strategy for location and seismic protection of key communication, command/control and emergency medical facilities



Figure 2.21 Potential Subsidence Areas

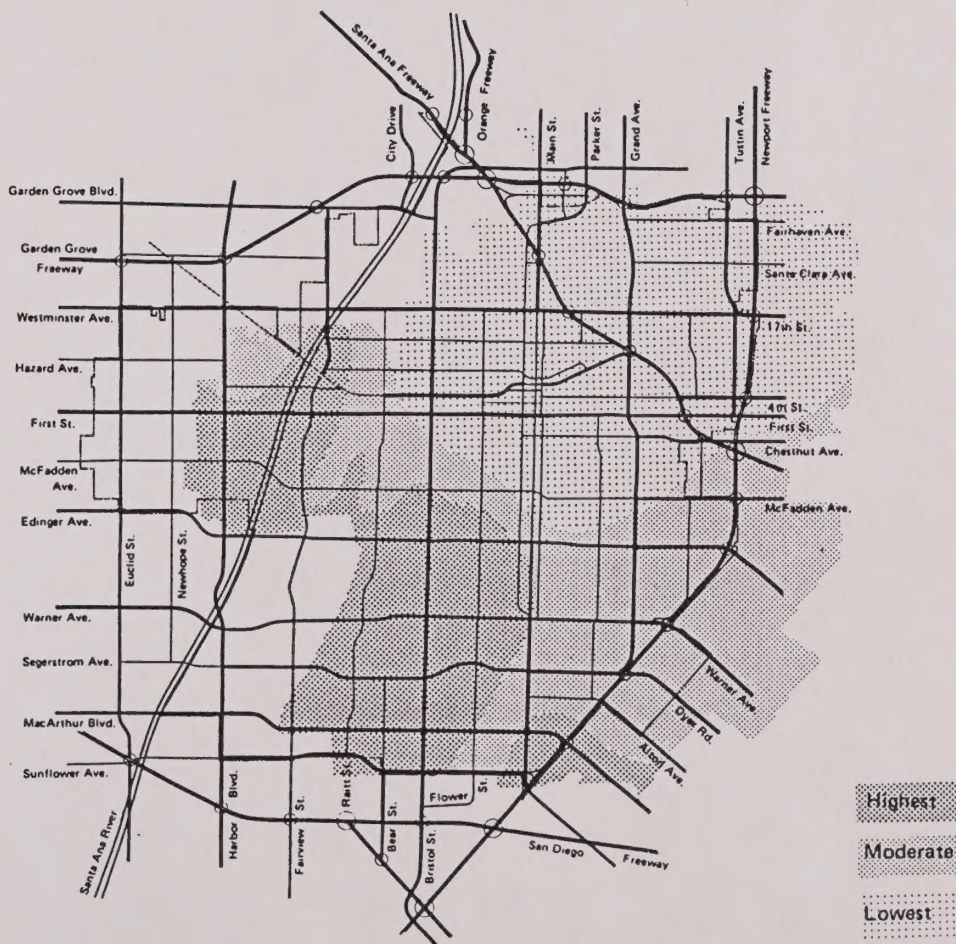


Figure 2.22 Potential Liquefaction Areas

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